AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated in the following recitation of pending claims.

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Currently amended) The optical inspection system of claim ~~1~~ 17 wherein the computer includes means for integrating the height information over the length of an exposure to calculate an average height.

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (New) An optical inspection system for inspecting a structure-bearing surface of an object, said system comprising:

at least one coherent light source that illuminates the surface of the object with a narrow coherent light beam creating a first line, said at least one coherent light source being movably mounted such that the first line created by the at least one coherent light beam can be moved over an area of interest on the surface of the object;

a camera movably mounted above the surface such that the camera may be moved to capture an image of the first line as it moves with respect to the surface being inspected;

wherein the at least one coherent light source is strobed at a first predetermined exposure time, thereby controlling exposure time of the camera to the illumination created by the at least one coherent light source; and

a computer that determines structure height information for the structure from the captured image of the first line.

18. (New) The system of claim 17, wherein the at least one coherent light source is a laser.

19. (New) The system of claim 17, further comprising a first visible light source for illuminating the surface of the object, wherein the camera captures a first image of the surface when it is illuminated by the first visible light source and the computer determines two-dimensional structure information from the first image.

20. (New) The system of claim 19, wherein the first visible light source is operable to strobe at a second predetermined exposure time, thereby controlling the exposure time of the camera to illumination from the first visible light source.

21. (New) The system of claim 19, wherein the at least one coherent light source emits light at a first wavelength and the first visible light source emits light at a second wavelength that is different from the first wavelength.

22. (New) The system of claim 21, wherein the camera comprises a first channel for capturing light at the first wavelength and a second channel for capturing light at the second wavelength such that the image of the line as it moves with respect to the surface being inspected and the first image of the surface when it is illuminated by the first visible light source may be captured independently even if the light sources are emitting light at the same time.

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23. (New) The system of claim 22, further comprising a second visible light source for illuminating the surface of the object, the second visible light source emitting light at a third wavelength that is different from the first wavelength and from the second wavelength, and wherein the camera captures a second image of the surface when it is illuminated by the second visible light source, and the computer determines two-dimensional structure information from the second image.

24. (New) The system of claim 23, wherein the camera comprises a third channel for capturing light at the third wavelength.

25. (New) A method of inspecting a structure-bearing surface of an object, said method comprising the steps of:

forming at least one line on the surface of the object using a light emitted at a first wavelength;

moving the line with respect to the surface;

capturing an image of the line as the line moves with respect to the surface; and

determining height information for structures in the region from the image of the line.

26. (New) The method of claim 25, wherein the line is created by a coherent light source that emits light strobed at a predetermined exposure time.

27. (New) The method of claim 26, wherein the at least one line is a plurality of lines formed in a spaced relationship on the surface of the object.

28 (New) The method of claim 27, wherein the plurality of lines are regularly spaced, and wherein the predetermined exposure time is a function of the spacing between the individual lines of the plurality of lines.

29. (New) The method of claim 27, wherein the plurality of lines form a grid on the surface of the object.

30. (New) The method of claim 25, further comprising the step of illuminating the surface of the object with visible light at a second wavelength, the second wavelength being different from the first wavelength.

31. (New) The method of claim 30, wherein the image-capturing step includes capturing a second image of the surface illuminated by the visible light at a second wavelength, and wherein the method further comprises the step of determining two-dimensional information for any structures in the region by analyzing the second image.

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32. (New) The method of claim 31, wherein the image capturing step is performed by a camera operable to capture separate images corresponding to light of the first wavelength and of the second wavelength, respectively, such that they may illuminate the surface at the same time.

33. (New) The method of claim 32, wherein the visible light at a second wavelength is emitted by a visible light source that is strobed at a predetermined exposure time.

34. (New) The method of claim 33, where in the predetermined exposure time for the coherent light source and the predetermined exposure time for the visible light source are different.

35. (New) The method of claim 32, further comprising the steps of illuminating the surface with visible light at a third wavelength, the third wavelength

being different from the first and second wavelength, wherein the image capturing step includes capturing a third image created by the visible light at the third wavelength, and determining two-dimensional information for any structures in the region by analyzing the third image.

36. (New) The method of claim 35, wherein the two-dimensional information from the second image is combined with the two-dimensional information from the third image to create refined two-dimensional information.

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37. (New) The method of claim 36, wherein the refined two-dimensional information is combined with the height information to create a profile of structures on the surface of the object.

38. (New) The method of claim 31, wherein the two-dimensional information is combined with the height information to create a profile of structures on the surface of the object

39. (New) The method of claim 25, wherein the height information is determined by integrating a series of height measurements to provide an average height.